Remarks

Claims 2-5, 8, 9, 14, 41 – 44, 61, 62, and 64 are cancelled without prejudice or disclaimer. Claims 1, 6, 7, 10 – 13, 15-17, 19 – 29, 31-39, 45 –50, 58, 59, and 60 remain pending and reconsideration of the pending claims is requested. Applicant's would like to thank Examiners Colon and Hafiz for the opportunity to discuss this application during the patent office interview of March 17, 2003. It was agreed that consideration of this amendment would take place in a timely fashion.

Claim 1 features the subject matter of allowable claim 9 and is now allowable. Claims 6, 7, 10 – 13, 15-17, 19 and 20 depend from allowable claim 1 and are also allowable.

Claim 21 features a method of personalizing marketing resources. The method includes providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is provided for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features. The observed characteristics comprising: (a) at least one of the user's attributes, and (b) at least one of the user's preferences. The data mining engine is trained with a set of training data contained in the user database by clustering the users in the database into user segments with similar observed characteristics.

The method of claim 21 then inputs to the data mining engine a set of user attributes of one of: (a) a particular user, or (b) a particular group of users; and, in response thereto, obtains from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the user segments identified during the training of the data mining engine has characteristics that are statistically correlated with the set of user attributes. The subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes.

The method of claim 21 features a clustering of data by a data mining engine based on the submission of training data from the user database. The clustering into user segments obtained as a result of that training is used in obtaining adaptable marketing features that have a highest correlation to a set of user attributes by determining which of the user segments found during clustering of data are statistically correlated with the user

attributes that are input to the data mining engine.

As discussed during the March 17th interview, the clustering featured in claim 21 is performed before the user attributes are input to the data mining engine and the results of the clustering can be quickly correlated with those attributes and used to identify marketing features. The Examiners admitted that the reference to Thearling does not show or suggest clustering of data. (See page 5, last paragraph of the office action of January 24th, 2003.) Applicants believe the combination of the Thearling reference with Wrobel (US 6,154,739) is defective since nothing in the Wrobel reference teaches use of an already defined clustering model with input attributes to derive marketing parameters. In fact if the combination were obvious there would be no need in Wrobel for sampling a subset of the data rather than clustering of all the training table data.

The Examiner's attention is referred to col 5, line 30 of Wrobel where it is stated that "clustering algorithms segment our customer base into homogeneous groups that can be treated together in marketing campaigns." This reference does not suggest performing the clustering and then using the results to correlate cluster segments with input user attributes. In fact later in the Wrobel patent at column 15, line 66 it is suggested that for large databases, it is not only important to limit the number of subgroups but also limit the time taken to test the appropriateness of the subgroup through sampling. This means that any clustering be done only after the input parameters of interest have been entered into the MIDOS query Wrobel uses to examiner the database. Wrobel does not suggest the method featured in claim 21 wherein clustering occurs first and then the correlation is performed. Stated another way, if applicant's method were obvious in view of the two combined reference there would be no need for Wrobel to sample data to speed the evaluation process. It is a straightforward task to perform Applicant's recited correlation between input parameters and the segment characteristics derived from the data mining engine. clustering. The Wrobel process is to use the MIDOS Query to cluster the data nad then use the output of such clustering to formulate a marketing campaign and since this does not suggest the recited process claim 21 is patentable.

The amendment to the claims emphasis the fact that clustering of data occurs prior to the correlation between user attributes and the user segments. This time ordering was implicit based on the fact that the correlation was based on user segments which only exist

after clustering. For these reasons the amendments to claim 21 raise no new issues. Claims 22 – 29 depend on allowable claim 21 and are also allowable.

Claim 31 features a method of controlling the marketing resources of an Internet site having a real-time user interface during a visit to the Internet site by a particular user. The method provides a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is used to correlate observed characteristics of each one of a set of users with a set of adaptable marketing features. The observed characteristics comprise at least one of: (a) user attributes, and (b) user preferences. The data mining engine is trained with a set of training data comprising the user database by clustering the users in the data base into segments of users with similar characteristics. A set of user attributes of the particular user is input by obtaining observed characteristics of the particular user through a real-time user interface of the Internet site. In response to characteristics observed through the interface the data mining engine obtains a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes. The subset of adaptable marketing features is determined based upon the preferences of the segments of users that is statistically correlated to the set of user attributes input to the data mining engine.

The order of steps recited in claim 31 is to first cluster the data and to then obtain user attributes. This allows a rapid analysis of the cluster segments for use in determining marketing features. Again, there is no suggestion of this process in the combination of Wrobel and Thearling. If it were obvious to perform the method as featured in claim 31 there would be no reason for the sampling process outlined in Wrobel (See cols 15 and 16) For this reason claim 31 and dependent claims 32 – 39 and 45 –50 are allowable.

Claims 58 – 60 are machine readable claims that have been amended to correspond with allowable method claims 1, 21, and 31 respectively. These claims are allowable.

The recitations added to claims 21 and 59 were to clarify the order in which the process steps are performed and raise no new issues. Claims 31 and 60 were amended to incorporate features of cancelled claim 44 and hence raise no new issues.

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All claims presently pending in this application are in condition for allowance and a prompt notification of allowance is requested.

Respectfully Submitted,

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Attachment: Claims with bracketing and Underlining

Attachment: Claims with bracketing and underlining

1. **(Three times Amended)** A method for managing a marketing campaign, comprising:

providing a data mining engine capable of being trained with training data; and capable thereafter of performing inferences relative to the training data and on additional data;

providing a user database containing observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user database by clustering the user database into different segments of users distinguished by different states of one or more characteristics;

inputting to the data mining engine a predetermined [characteristic] set of characteristics including a predetermined set of user attributes likely to pertain to a product to which the marketing campaign is directed [pertaining to the marketing campaign] and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic by determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic;

determining in the data mining engine a set of prevalent attributes of the subset of users;

defining a target database of users and determining in the data mining engine a target subset of users in the target data base statistically correlated to the set of prevalent attributes;

conducting a marketing campaign cycle directed at the target subset of users;

observing responses of the target subset of users to the marketing campaign cycle;

forming a focused group of the target subset of users whose observed response was a particular type of response;

determining, in the data mining engine, a group of prevalent characteristics of the focused group of users; and

<u>defining a database to be mined and determining, in the data mining engine, a new set of users in the database to be mined whose characteristics are statistically correlated with the group of prevalent characteristics.</u>

Please cancel claims 2 – 5 without prejudice or disclaimer.

6. (Twice Amended) The method of Claim [5] 1 wherein the target database comprises the user database with which the data mining engine has been trained.

7. (Twice Amended) The method of Claim [5] 1 wherein the target database comprises an additional database not included in the user database, the additional data base defining characteristics of a set of new users.

Please cancel claims 8 and 9 without prejudice or disclaimer

10. (**Amended**) The method of Claim [9] 1 wherein the database to be mined comprises the user database with which the data mining engine was trained.

11. (**Amended**) The method of Claim [9] 1 wherein the database to be mined comprises the target data base of users.

12. (**Amended**) The method of Claim [9] 1 wherein the database to be mined comprises a new database not included in either the user data base nor in the target user database.

13. (**Amended**) The method of Claim [9] 1 further comprising:
    directing a subsequent marketing campaign cycle to the new set of users,

Please cancel claim 14 without prejudice or disclaimer.

15. (Amended) The method of Claim [14] 1 wherein the user preference

corresponds to a prior purchase of a product which is a subject of the marketing campaign.

17. (Amended) The method of Claim [5] 1 further comprising:

for any member of the target subset of users having certain attributes which are undetermined, filling in the certain undetermined attributes with the corresponding ones of the set of prevalent user attributes of the subset of users.

Claim 18 was cancelled in the first amendment

21. (**Three Times Amended**) A method of personalizing marketing resources, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data;

providing a user database for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the observed characteristics comprising: (a) at least one of the user's attributes, and (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user database by clustering the users in the database into user segments with similar observed characteristics;

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, or (b) a particular group of users; and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the user segments identified during the training of the data mining engine has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes.

Claim 30 was cancelled in the first amendment.

31. (**Twice Amended**) A method of controlling the marketing resources of [a] an Internet site having a real-time user interface during a visit to the Internet site by a particular user, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data;

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the observed characteristics comprising at least one of: (a) user attributes, and (b) user preferences;

training the data mining engine with a set of training data comprising the user database by clustering the users in the data base into segments of users with similar characteristics ;

inputting to the data mining engine a set of user attributes of the particular user by obtaining observed characteristics of the particular user through a real-time user interface of the Internet site; and, in response to characteristics observed through the interface [thereto], obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein

the subset of adaptable marketing features is determined based upon the preferences of the segments of users that was statistically correlated to the set of user attributes input to the data mining engine.

Claim 40 was cancelled in the second amendment.

Please cancel claims 41 – 44 without prejudice or disclaimer

45. (**Amended**) The method of Claim [44] 31 wherein some characteristics of the particular user are not observed through the interface, but have been previously determined by clustering for the segment to which the particular user is assigned, whereby the characteristics not

observed through the interface are filled in upon assignment of the particular user to a segment.

Claims 51, 52, and 54 were cancelled in the second amendment

Claim 53 was cancelled in the first amendment

Claims 55 - 57 were cancelled in the first amendment

58. (**Twice Amended**) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data; and on additional data;

providing a user database defining the observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user database by clustering the user data base into different segments of user distinquished by different states of a characteristic;

inputting to the data mining engine a predetermined [characteristic] set of characteristics including a predetermined set of user attributes likely to pertain to a product to which the marketing campaign is directed [pertaining to the marketing campaign] and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic by determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic;

determining in the data mining engine a set of prevalent attributes of the subset of users;

defining a target database of users and determining in the data mining engine a target subset of users in the target data base statistically correlated to the set of prevalent;

conducting a marketing campaign cycle directed at the target subset of users;